DISCUSSION OF THE AMENDMENT

Due to the length of the specification herein, Applicants will cite to the paragraph number of the published patent application (PG Pub) of the present application, i.e., US 2006/0008222, when discussing the application description, both in this section and in the Remarks section, *infra*, rather than to page and line of the specification as filed.

Claim 1 has been amended by deleting the word --general-- and by deleting parenthesis. No change in claim scope is intended or effected.

New Claims 9-19 have been added. Claim 9 is supported in the specification at paragraph [0034]; Claim 10 at paragraph [0039]; Claims 11 and 12 at paragraph [0041]; Claim 13 at paragraph [0042]; Claim 14 at paragraph [0043]; Claims 15 and 16 at paragraph [0047]; Claim 17 at paragraph [0066]; Claim 18 at paragraph [0067]; and Claim 19 at paragraph [0064].

No new matter is believed to have been added by the above amendment. Claims 1-19 are now pending in the application.

REMARKS

The rejection of Claims 1-6 under 35 U.S.C. § 103(a) as unpatentable over US 4,959,431 (Watanabe et al) in view of US 4,902,440 (Takeyama et al), is respectfully traversed.

Watanabe et al discloses an optical material comprising a copolymer obtained by polymerizing a monomer composition composed of, in one embodiment, 30-65 parts by weight of a component A which comprises a trifunctional monomer represented by a formula [A], 10-30 parts by weight of a component B which comprises an aliphatic bifunctional monomer represented by a formula [B], and 30-55 parts by weight of component C formed of a copolymerizable monomer which is copolymerizable with components A and B and contains an aromatic group (column 3, lines 35-47), wherein said component A may be, *inter alia*, tris(2-acryloxyethyl) isocyanurate (column 6, lines 25-26). Watanabe et al discloses that component C, when copolymerized with components A and B, can provide a copolymer having a refractive index as high as at least 1.53 (column 8, lines 40-43). No additional limitations are imposed on component C beyond the fact that it contains an aromatic group and is radically copolymerizable with components A and B; specific examples listed include phenyl methacrylate, acryloxyethoxybenzene, methacryloxydiethoxybenzene and 2,2-bis[4-(methacryloxyethoxy)-phenyl)]propane (column 8, lines 43-58). The Examiner particularly relies on Examples 7-9 of Watanabe et al, although none of these examples contain the presently-recited combination of components (A), (B), and tris(2-acryloyloxyethyl) isocyanurate (TAI). Nevertheless, the Examiner finds that it would have been obvious to use a mixture of component C monomers among those specifically listed by Watanabe et al, such as acryloxyethoxybenzene and 2,2-bis[4-(methacryloxyethoxy)phenyl]propane.

Watanabe et al does not disclose the use of a photoradical polymerization initiator. Indeed, Watanabe et al discloses the use of thermal initiators only, such as peroxides (column 9, line 42).

Takeyama et al discloses UV curable resin composition derived from a blend comprising a urethane acrylate and TAI, or TAI and a diacrylate.

The Examiner finds that the compositions of Takeyama et al are "analogous" to those of Watanabe et al and thus, it would have been obvious to employ a photoinitiator in Watanabe et al.

In reply, Watanabe et al does not distinguish among their components C so long as they are copolymerizable with their components A and B and provide the desired minimum refractive index and thus, recognizes no advantage in the combination of an aromatic di(meth)acrylate and an aromatic mono(meth)acrylate, as required by the present claims. Indeed, Applicants have described comparative data in the specification demonstrating the importance of both of these components. Examples 1-4, 6 and 7 are according to the presently-claimed invention. Example 5 and Comparative Examples 1-3 are not. As the data show, when present component (A) is not present, both viscosity and glass transition temperature are inferior, as shown in Comparative Example 1. When component (B) is not present, both viscosity and patterning ability are inferior, as shown in Comparative Example 2. When both components (A) and (B) are omitted, refractive index, patterning ability, and transmission characteristics are inferior, as shown in Comparative Example 3. When TAI is omitted, the glass transition temperature is inferior, as shown in Example 5. See Table 1 at pages 6-7.

Thus, as demonstrated by the above-discussed comparative data, each of components (A) and (B) has a different contributing effect to the final product, clearly not predictable from the combination of Watanabe et al and Takeyama et al.

Nor would it have been obvious to combine Watanabe et al and Takeyama et al. Watanabe et al is concerned with achieving excellent dyeability and high refractive index of materials such as spectacle lenses (column 1, line 6ff). Takeyama et al, on the other hand, is concerned with a secondary coating material for optical fibers for purposes of achieving a higher modulus to provide strength to fibers (column 1, line 5ff). Watanabe et al's use of TAI or analogous compounds is to obtain heat resistance (column 5, lines 11-12). The purpose of the TAI in Takeyama et al is to increase elastic modulus without changing elongations and to give a lower water absorption (column 3, lines 55-59). Nor is there is any equivalence between the photoinitiator of Takeyama et al and the thermal initiator of Watanabe et al, and one of ordinary skill in the art would not substitute one for the other.

Claim 4 is separately patentable. Watanabe et al requires that the TAI be present in an amount of at least 30 wt%. As disclosed therein, when it is present in an amount less than 30 wt%, heat resistance and solvent resistance will be inferior and will not provide sufficient dyeability (column 7, lines 5-11). Thus, Watanabe et al teach away from reducing the amount of their component A to lower than 30 wt%.

For all the above reasons, it is respectfully requested that this rejection be withdrawn.

The rejections under 35 U.S.C. § 103(a) of Claim 7 as unpatentable over JP 01-299807 (JP '807) in view of Watanabe et al in view of Takeyama et al, and of Claim 8 as unpatentable over US 5,263,111 (Nurse et al) in view of JP '807 and further in view of Watanabe et al in view of Takeyama et al, are respectfully traversed.

The disclosures and deficiencies of Watanabe et al and Takeyama et al alone, and in combination, have been discussed above. Neither Watanabe et al nor Takeyama et al disclose their particular materials for use as or in optical waveguides. Nor could one skilled in the art have predicted the effect of including TAI in the cured product of Watanabe et al and/or Takeyama et al when used as a core and/or clad layer of an optical waveguide, since neither

JP '807 nor Nurse et al contain TAI. Indeed, only with the present disclosure as a guide would one skilled in the art employ the combination of Watanabe et al and Takeyama et al for this utility. In addition, even so combined, the results obtained by the present invention, as discussed above with regard to the comparative data of record, could not have been predicted by the combination.

For all the above reasons, it is respectfully requested that these rejections be withdrawn.

The rejection of Claims 1-8 under 35 U.S.C. § 112, second paragraph, is respectfully traversed. The use of such terminology as "general" in "general formula", and the use of parentheses, have been accepted in US patent prosecution practice, as can be confirmed by the wealth of issued US patents with such usage. Nevertheless, the issue is now moot in view of the above-discussed amendment. Accordingly, it is respectfully requested that the rejection be withdrawn.

All of the presently-pending claims in this application are now believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Respectfully submitted,

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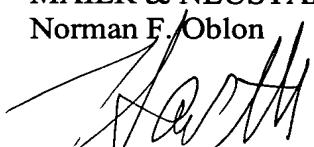

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